

Collin H. Martin

CONTACT INFORMATION:

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EDUCATION:

Aug 2004-Present: Massachusetts Institute of Technology (MIT), Ph.D. Candidate, Chemical Engineering. Cumulative GPA 5.00/5.

2001-2004: B.S.ChE, *summa cum laude*, University of Oklahoma (OU), Cumulative GPA 4.00/4.

WORK EXPERIENCE:

-Graduate Research Assistant, Cambridge, MA, January 2005-Present
Designing novel retrobiosynthetic metabolic pathways in *Escherichia coli*. Developing a retrobiosynthetic pathway for the biosynthesis of the statin precursor (S)- γ -hydroxybutyrolactone.

-Undergraduate Research Assistant, Norman, OK, September 2001-August 2003
Designed a simple, practical synthesis of α,α -disubstituted α -amino acids. Produced several different variants of symmetric and asymmetrically substituted amino acids economically and in high yield. Developed several organometallic complex scaffolds for the synthesis of these amino acids.

-Undergraduate Research Assistant, Norman, OK, June 2002-August 2002
Refined Purification Methods of Single-Wall Carbon Nanotubes. Greatly reduced silica and metallic impurities in these nanotubes by improving a novel nanotube treatment process.

HONORS/AWARDS:

- Robert T. Haslam Presidential Fellow, 2004-Present.
- Barry M. Goldwater Scholar, 2003-2004.
- Honors Research Assistantship Program Appointment, Spring 2002, Fall 2002, Spring 2003.
- Undergraduate Research Opportunities Program Award, Spring 2002, Fall 2002.
- American Chemical Society Organic Division Travel Award Recipient, March 2003.
- OU Department of Chemical Engineering and Materials Science Outstanding Sophomore of the Year, May 2002.
- OU Department of Chemistry and Biochemistry Outstanding Sophomore of the Year, May 2002.
- Silver Medalist, United States Team, 33rd International Chemistry Olympiad, 2001, Mumbai, India.
- Guest Lecturer, Oklahoma Chapter of the American Chemical Society, November 1, 2001.
- National Merit Scholar, 2001.

PUBLICATIONS:

1. Ueki, Hisanori; Ellis, Trevor K.; Martin, Collin H.; Boettiger, Tomas U.; Bolene, Shawna B.; Soloshonok, Vadim A., Improved Synthesis of Proline-Derived Ni(II) Complexes of Glycine: Versatile Chiral Equivalents of Nucleophilic Glycine for General Asymmetric Synthesis of α -Amino Acids. *Journal of Organic Chemistry* (2003), 68(18), 7104-7107.
2. Ellis, Trevor K.; Martin, Collin H.; Tsai, Gary M.; Ueki, Hisanori; Soloshonok, Vadim A., Efficient Synthesis of Sterically Constrained Symmetrically α,α -Disubstituted α -Amino Acids under Operationally Convenient Conditions. *Journal of Organic Chemistry* (2003), 68(16), 6208-6214.
3. Ueki, Hisanori; Ellis, Trevor K.; Martin, Collin H.; Soloshonok, Vadim A., Efficient Large-Scale Synthesis of Picolinic Acid-Derived Nickel(II) Complexes of Glycine. *European Journal of Organic Chemistry* (2003), (10), 1954-1957.
4. Ellis, Trevor K.; Martin, Collin H.; Ueki, Hisanori; Soloshonok, Vadim A. Efficient, Practical Synthesis of Symmetrically α,α -Disubstituted α -Amino Acids. *Tetrahedron Letters* (2003), 44(5), 1063-1066.
5. Vadim A. Soloshonok, Takeshi Yamada, Hisanori Ueki, Anna M. Moore, Tanner K. Cook, Kelsey L. Arbogast, Anatolii V. Soloshonok, Collin H. Martin and Yasufumi Ohfuné, Operationally Convenient, Efficient Asymmetric Synthesis of Enantiomerically Pure 4-Aminoglutaric Acids via Methylene Dimerization of Chiral Glycine Equivalents with Dichloromethane. *Tetrahedron* 62 (2006), 6412-6419.

CONFERENCE POSTERS:

1. Soloshonok, Vadim A.; Ueki, Hisanori; Ellis, Trevor K.; Martin, Collin H., Efficient Large-Scale Synthesis of Picolinic Acid Derived Ni(II)-Complexes of Glycine as New and Synthetically Efficient Equivalents of Nucleophilic Glycine. Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003).
2. Boettiger, Tomas U.; Bolene, Shawna B.; Ueki, Hisanori; Ellis, Trevor K.; Martin, Collin H.; Soloshonok, Vadim A. Improved Synthesis of Proline-Derived Ni(II)-Complexes of Glycine, Versatile Chiral Equivalents of Nucleophilic Glycine for General Asymmetric Synthesis of α -Amino Acids. Abstracts of Papers, 226th ACS National Meeting, New York, NY, United States, September 7-11, 2003 (2003).

CONFERENCE PRESENTATIONS:

1. Soloshonok, Vadim A.; Ellis, Trevor K.; Ueki, Hisanori; Martin, Collin H.. Efficient, Practical Synthesis of Symmetrically α,α -Disubstituted α -Amino Acids. Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003).